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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,397	03/22/2006	Randy J. Sayers	14432	9452
7590 11/10/2009				
Paul F Donovan Illinois Tool Works Inc 3600 West Lake Avenue Glenview, IL 60026			EXAMINER HAUTH, GALEN H	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 11/10/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/573,397

**Applicant(s)**

SAYERS ET AL.

**Examiner**

GALEN HAUTH

**Art Unit**

1791

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 24-42 and 44-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16-23 and 43 is/are rejected.
- 7) ☒ Claim(s) 11-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date 07/29/2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Acknowledgement is made to applicant's amendment of claims 1, 4, 16-17, and
43. No new matter has been added.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-5, 16-18, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (PN 2759217) in view of Stumpf et al. (PN 6059368).
    - a. With regards to claim 1, Peterson teaches a stretching assembly comprising a plurality of clamp assemblies (32) operable to grip the periphery of a blank (34) and a plurality of slide assemblies (48) for selectively moving the clamps to stretch the blank in first and second directions perpendicular to each

other (Fig. 1). Peterson teaches male and female mold parts above and below the stretching assembly (col 4 ln 31-45), but does not teach that the mold parts are capable of apply a component onto the stretched blank.

b. Stumpf teaches an apparatus for applying a component onto a stretched blank in which a loom holds a blank in a stretched condition while male and female molds are closed around the blank allowing for a carrier member to be formed on the stretched material (col 20 ln 17-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use male and female mold members of Stumpf capable of delivering a component onto the stretched blank of Peterson as both relate to molding practices upon stretched blank preforms presenting a reasonable expectation of success and doing so allows for the benefit of forming carrier structures upon stretched materials.

c. With regards to claim 2, Peterson teaches a plate (12) allowing the mating of the mold components with slide assemblies movably mounted to the plate (Fig. 1).

d. With regards to claim 3, Peterson teaches that the mold is movable to penetrate the sheet (col 4 ln 18-25).

e. With regards to claim 4, Peterson teaches that the mold and plate are in a movable relationship in a direction perpendicular to both stretching directions, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a movable plate as opposed to a movable mold as such is an obvious design variant resulting in an equivalent process step.

- f. With regards to claim 5, Peterson teaches that the plate is biased away from the mold by supports (14, Fig. 3).
- g. With regards to claim 16, Peterson teaches a stretching assembly comprising a plurality of clamp assemblies (32) operable to grip the periphery of a blank (34) and a plurality of slide assemblies (48) for selectively moving the clamps to stretch the blank in first and second directions perpendicular to each other (Fig. 1). Peterson teaches male and female mold parts above and below the stretching assembly (col 4 ln 31-45), but does not teach that the mold parts are capable of apply a component onto the stretched blank.
- h. Stumpf teaches an apparatus for applying a component onto a stretched blank in which a loom holds a blank in a stretched condition while male and female molds are closed around the blank allowing for a carrier member to be formed on the stretched material (col 20 ln 17-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use male and female mold members of Stumpf capable of delivering a component onto the stretched blank of Peterson as both relate to molding practices upon stretched blank preforms presenting a reasonable expectation of success and doing so allows for the benefit of forming carrier structures upon stretched materials.
- i. With regards to claim 17, Peterson teaches a plate (12) allowing the mating of the mold components with slide assemblies movably mounted to the plate (Fig. 1).

- j. With regards to claim 18, Peterson teaches that the mold is movable to penetrate the sheet (col 4 ln 18-25).
  - k. With regards to claim 43, Peterson teaches a stretching assembly comprising a plurality of clamp assemblies (32) operable to grip the periphery of a blank (34) and a plurality of slide assemblies (48) for selectively moving the clamps to stretch the blank in first and second directions perpendicular to each other (Fig. 1). Peterson teaches male and female mold parts above and below the stretching assembly (col 4 ln 31-45) and that the mold is movable to penetrate the sheet (col 4 ln 18-25), but does not teach that the mold parts are capable of apply a component onto the stretched blank.
  - l. Stumpf teaches an apparatus for applying a component onto a stretched blank in which a loom holds a blank in a stretched condition while male and female molds are closed around the blank allowing for a carrier member to be formed on the stretched material (col 20 ln 17-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use male and female mold members of Stumpf capable of delivering a component onto the stretched blank of Peterson as both relate to molding practices upon stretched blank preforms presenting a reasonable expectation of success and doing so allows for the benefit of forming carrier structures upon stretched materials.
5. Claims 6-9, 19, 20, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (PN 2759217) in view of Stumpf et al. (PN 6059368) as applied to claims 5 and 18 above, and further in view of Ferro (PN 3880561).

- a. With regards to claims 6 and 19, Peterson in view of Stumpf, as applied to claims 5 and 18 above, teaches an apparatus for applying movable mold elements to a stretched blank disposed between the mold elements. Peterson in view of Stumpf does not teach using springs to bias the stretched blank from one of the mold parts.
- b. Ferro teaches an apparatus for molding a fabric material disposed between male and female mold parts in which the plate upon which the fabric is held is biased away from mold parts with springs to allow the mold parts to come into mating contact prior to the contact of the mold element with the fabric (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use springs to bias the mold elements from the fabric plate of Peterson to allow for mating of the molding elements prior to the contact of the mold elements with the fabric and both relate to the molding of blanks disposed between opposing movable mold elements presenting a reasonable expectation of success.
- c. With regards to claim 7, Peterson in view of Stumpf and Ferro, as applied to claim 6 above, teaches upon compaction by the upper mold the fabric moves into contact with the lower mold by compression of spring biasing means (31) (Fig. 4,5 of Ferro).
- d. With regards to claims 8 and 20, Peterson teaches using rams (84, 72) to move the mold elements (Fig. 3).

- e. With regards to claim 9, Peterson teaches stretching cylinders (50) connecting the slide assemblies with the frame (Fig. 1).
  - f. With regards to claim 22, Peterson in view of Stumpf and Ferro does not teach the use of a strain gauge; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a strain gauge between the stretch cylinder and the plate to improve process control of the apparatus as strain gauges are well known in the art.
  - g. With regards to claim 23, Ferro teaches the use of apertures in the fabric holding plate through which alignment pins project (col 6 ln 21-25, Fig. 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plate with apertures for alignment as taught by Ferro because doing so increases the control of alignment between mold elements and work piece.
6. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (PN 2759217) in view of Stumpf et al. (PN 6059368) and Ferro (PN 3880561) as applied to claims 9 and 19 above, and further in view of Asano (PN 3466706).
- a. With regards to claims 10 and 21, Peterson in view of Stumpf and Ferro, as applied to claims 9 and 19 above, teach an apparatus for clamping a blank on each side within a frame located between mold elements in which the clamps are activated by a clamp cylinder (Fig. 5 of Peterson), but does not teach pivot action of the clamp head.



b. Asano teaches an apparatus for clamping a blank on each side within a frame located between mold elements (Fig. 4, 7) in which the clamps are activated by a clamp cylinder (Fig. 6) in which the clamps act on a pivot motion (fig. 2, 3) as opposed to a linear motion. It would have been obvious to one of ordinary skill in art at the time the invention was made to use a pivoting clamp as opposed to the linear clamp of Peterson as such are obvious variants in the frame art as both relate to the clamping of a material between mold elements presenting a reasonable expectation of success.

***Allowable Subject Matter***

7. Claims 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not teach nor render obvious a stretching assembly as defined in claim 11 in which the assembly according to claim 10 also includes a plurality of fabric pins including a robot which transfers blanks from a loading station to the stretching assembly through the use of shot pins aligned with the fabric pins present upon the stretching assembly. Claims 12-15 depend upon claim 11 and are therefore also indicated as allowable.

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-23 and 43 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **GALEN HAUTH** whose telephone number is (571)270-5516. The examiner can normally be reached on **Monday to Thursday 8:30am-5:00pm ET**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/  
Supervisory Patent Examiner, Art Unit 1791